

2m4
N74-12782

(NASA-CR-134158) PATIENT ASSIST DEVICE
PARTS LIST (Southwest Research Inst.)
45 p HC \$3.00
24

CSCL 06L

Unclass
G3/05 23707

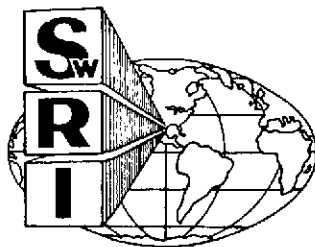
PATIENT ASSIST DEVICE PARTS LIST

by
Melvin A. Schrader
Menan C. Hanz

NAS
Contract ~~NES~~ 9-13582
Project No. 13-3702-001
Southwest Research Institute
San Antonio, Texas 78284

Prepared for
NASA Lyndon B. Johnson Space Center
Houston, Texas

29 October 1973



SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO CORPUS CHRISTI HOUSTON

SOUTHWEST RESEARCH INSTITUTE
Post Office Drawer 28510, 8500 Culebra Road
San Antonio, Texas 78284

PATIENT ASSIST DEVICE PARTS LIST

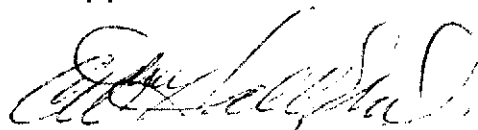
by
Melvin A. Schrader
Menan C. Hanz

Contract MIS9-13582
Project No. 13-3702-001
Southwest Research Institute
San Antonio, Texas 78284

Prepared for
NASA Lyndon B. Johnson Space Center
Houston, Texas

29 October 1973

Approved:



C. William Hall, M.D., Director
Department of Bioengineering

INTRODUCTION

1. Scope

This manual contains a complete parts list for the Patient Assist Device.

2. Explanation of columns is given below.

a. Reference No. - Column 1

The reference number applied to a component in the schematic diagram in Figure 4 appears in this column.

b. Description - Column 2

Reference name and qualifiers appear in this column.

c. Remarks - Column 3

Remarks of interest concerning reference items appear in this column. SwRI sketches referred to in this column are included immediately following the parts list.

Contractor Southwest Research Institute

Nomenclature PATIENT ASSIST DEVICE

Order No. Contract No. NAS 9-13582

Date Oct. 12, 1973

REF. NO.	DESCRIPTION	REMARKS
C ₁	Capacitor, Tantalum, 100 μ fd, 10%, 20 VDC	Kemet Series T110
C ₂	Capacitor, Tantalum, 100 μ fd, 10%, 20 VDC	Kemet Series T110
C ₃	Capacitor, Tantalum, 100 μ fd, 10%, 20 VDC	Kemet Series T110
C ₄	Capacitor, Tantalum, 100 μ fd, 10%, 20 VDC	Kemet Series T110
C ₅	Capacitor, Silver Mica, 560 pfd., 5%	Kemet Series T110
C ₆	Capacitor, Ceramic Disc, .01 μ fd., 20%, 50 VDC	Kemet Series T110
C ₇	Capacitor, Ceramic Disc, .01 μ fd., 20%, 50 VDC	Kemet Series T110
C ₈	Capacitor, Ceramic Disc, .01 μ fd., 20%, 50 VDC	Kemet Series T110
D ₁	Diode, Signal, Silicon, 1N4448	
D ₂	Diode, Signal, Silicon, 1N4448	
D ₃	Diode, Signal, Silicon, 1N4448	
D ₄	Diode, Signal, Silicon, 1N4448	

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
F1	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F2	Fuse, AGC-5 (installed in 3 AG fuse extractor post no. 342004)		
F3	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F4	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F5	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F6	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F7	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F8	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F9	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F10	Fuse, AGC-5 (installed in 3AG fuse extractor post no. 342004)		
F11	Fuse, slo-blo, 3AG 5A (installed in 3AG fuse extractor post no. 342004)		
IC ₁	Integrated Circuit, SN74123N	Texas Instruments	
IC ₂	Integrated Circuit, SN74123N	Texas Instruments	
IC ₃	Integrated Circuit, SN7474N	Texas Instruments	

Page 2 of 2 Pages

Order No. Contract No. NAS 9-13582

Date Oct. 12, 1973

REF. NO.	DESCRIPTION	REMARKS
IC ₄	Integrated Circuit, SN7400N	Texas Instruments
IC ₅	Integrated Circuit, SN74192N	Texas Instruments
IC ₆	Integrated Circuit, SN75452	Texas Instruments
IC ₇	Integrated Circuit, SN7442N	Texas Instruments
IC ₈	Integrated Circuit, SN7402N	Texas Instruments
IC ₉	Integrated Circuit, SN7402N	Texas Instruments
IC ₁₀	Integrated Circuit, SN7402N	Texas Instruments
IC ₁₁	Integrated Circuit, SN75452	Texas Instruments
IC ₁₂	Integrated Circuit, SN75451	Texas Instruments
IC ₁₃	Integrated Circuit, SN75451	Texas Instruments
IC ₁₄	Integrated Circuit, SN75451	Texas Instruments
IC ₁₅	Integrated Circuit, SN75451	Texas Instruments
IC ₁₆	Integrated Circuit, SN75451	Texas Instruments
IC ₁₇	Integrated Circuit, SN7474N	Texas Instruments

Contractor Southwest Research Institute

Nomenclature PATIENT ASSIST DEVICE

Order No. Contract No. NAS 9-13582

Date Oct. 12, 1973

REF. NO.	DESCRIPTION	REMARKS
IC ₁₈	Integrated Circuit, SN7474N	Texas Instruments
IC ₁₉	Integrated Circuit, SN7474N	Texas Instruments
IC ₂₀	Integrated Circuit, SN7474N	Texas Instruments
IC ₂₁	Integrated Circuit, SN7474N	Texas Instruments
IC ₂₂	Integrated Circuit, SN7404N	Texas Instruments
IC ₂₃	Integrated Circuit, SN7404N	Texas Instruments
IC ₂₄	Integrated Circuit, SN75452	Texas Instruments
IC ₂₅	Integrated Circuit, SN75452	Texas Instruments
IC ₂₆	Integrated Circuit, SN75452	Texas Instruments
IC ₂₇	Integrated Circuit, SN75452	Texas Instruments
IC ₂₈	Integrated Circuit, SN75452	Texas Instruments
J1	Connector, Printed Circuit, 47 pin	ELCO No. 00-7015-047-217-002
J2	Connector, 9 pin	Winchester M9S

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
J3	Socket, AC, 3-wire	Waber Electronics No. 3011	
J4	Socket, AC, 3-wire	Waber Electronics No. 3011	
J5	Socket, AC, 3-wire	Waber Electronics No. 3011	
J6	Socket, AC, 3-wire	Waber Electronics No. 3011	
J7	Socket, AC, 3-wire	Waber Electronics No. 3011	
J8	Socket, AC, 3-wire	Waber Electronics No. 3011	
J9	Socket, AC, 3-wire	Waber Electronics No. 3011	
J10	Socket, AC, 3-wire	Waber Electronics No. 3011	
J11	Socket, AC, 3-wire	Waber Electronics No. 3011	
J12	Socket, AC, 3-wire	Waber Electronics No. 3011	
K1	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K2	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K3	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	

Page 5 of 12 Pages

Contractor	Southwest Research Institute	Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
K4	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140VAC	Teledyne Relays No. 601-1103	
K5	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K6	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K7	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K8	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K9	Relay, Solid State, Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
K10	Relay, Solid State; Zero Voltage Turn on, Switches 5A, 140 VAC	Teledyne Relays No. 601-1103	
L1	Indicator, Pushbutton, Lighted(with legend "1" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L2	Indicator, Pushbutton, Lighted(with legend "2" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L3	Indicator, Pushbutton, Lighted(with legend "3" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	

Page 6 of 12 Pages

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
L4	Indicator, Pushbutton, Lighted (with legend "4" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L5	Indicator, Pushbutton, Lighted (with legend "5" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L6	Indicator, Pushbutton, Lighted (with legend "6" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L7	Indicator, Pushbutton, Lighted (with legend "7" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L8	Indicator, Pushbutton, Lighted (with legend "8" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L9	Indicator, Pushbutton, Lighted (with legend "9" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
L10	Indicator, Pushbutton, Lighted (with legend "10" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31- CYL with lamp ASA No. 656	
<div style="text-align: right;">Page 7 of 12 Pages</div>			

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
L11	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L12	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L13	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L14	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L15	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L16	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L17	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	

Page 8 of 12 Pages

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
L18	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L19	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L20	Indicator, Pushbutton, Lighted (with legend "ON" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L21	Indicator, Pushbutton, Lighted (with legend "COUNT UP" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C23B31	
		CYK with lamp ASA No. 656	
L22	Indicator, Pushbutton, Lighted (with legend "COUNT DOWN" in 7/64" type size)	Microswitch Pushbutton Indicator No. 4C21B31	
		CYK with lamp ASA No. 656	
P1	Connector, printed circuit, 47 pin	Elco No. 00-7021-047-000-001	
P2	Connector, 9 pin	Winchester M9P	

Page 9 of 12 Pages

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
PS ₁	Power Supply, regulated, +5VDC, 2.2A	Acopian No. A5NT220	
PS ₂	Power Supply, regulated, +28VDC, 1.25A	Acopian No. A28NT125	
R1	Resistor, fixed, composition, 36K Ω , 5%, 1/4W		
R2	Resistor, fixed, composition, 20K Ω , 5%, 1/4W		
R3	Resistor, fixed, composition, 20K Ω , 5%, 1/4W		
R4	Resistor, fixed, composition, 20K Ω , 5%, 1/4W		
R5	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R6	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R7	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R8	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R9	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R10	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R11	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		

Page 10 of 12 Pages

Contractor Southwest Research Institute		Nomenclature PATIENT ASSIST DEVICE	
Order No.	Contract No. NAS 9-13582	Date	Oct. 12, 1973
REF. NO.	DESCRIPTION	REMARKS	
R12	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R13	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R14	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R15	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
R16	Resistor, fixed, composition, 1K Ω , 5%, 1/4W		
S1, L ₂₄	Switch, Pushbutton, Lighted (with legends "POWER" and "ON" in 7/64" type size)	Microswitch Pushbutton Switch No. 4A21BFA31 CRJ with lamp no. ASA 656	
S ₂ , L ₂₃	Switch, Pushbutton, Lighted (with legend "CLEAR" in 7/64" type size)	Microswitch Pushbutton Switch No. 4A21BEA31 CGL with lamp no. ASA 656	
S ₃ *	Switch, Miniature, Light Force (with 2-3/8" lever as external actuator)	Cherry no. E22-85HX	
S ₄ *	Switch, Miniature, Light Force (with 2-3/8" lever as external actuator)	Cherry no. E22-85HX	
S ₅ *	Switch, Miniature, Light Force (with 2-3/8" lever as external actuator)	Cherry no. E22-85HX	

Page 11 of 12 Pages

* These switches are patient activated and may be replaced by other SPST momentary action switches to

Contractor Southwest Research Institute

Nomenclature PATIENT ASSIST DEVICE

Order No. Contract No. NAS 9-13582

Date Oct. 12, 1973

REF. NO.	DESCRIPTION	REMARKS
	Cabinet, instrumentation, portable; with	Techmar No. PIC-5H-12W-120-WSH-T
	Panel, Front, modified by SwRI	SwRI Drawing Nos. 13-3702-001-011, -012, -013
	Panel, Rear, modified by SwRI	SwRI Drawing Nos. 13-3702-001-014, -015, -016